

Amendments to the Claims:

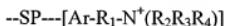
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1–14 (cancelled)

Claim 15 (currently amended): An anion-exchanger (1) comprising consisting essentially of a hydrophilic base matrix and a plurality of anion-exchange ligands each of which is attached via a spacer to a said hydrophilic base matrix, wherein

(a) the ligands plus their spacers comply with the formula:



wherein

(i) $[\text{Ar-R}_1\text{-N}^+(\text{R}_2\text{R}_3\text{R}_4)]$ represents a ligand in which

- a) Ar is an aromatic ring,
- b) R_1 is $[(\text{L})_n\text{R}'_1]_m$ wherein
 - n and m are integers selected amongst zero or 1;
 - L is an amino nitrogen, an ether oxygen or a thioether sulphur;
 - R'_1 is a bivalent linker group selected among

- 1) linear, branched or cyclic hydrocarbon groups;
 - 2) -C(=NH)-;
 - c) R₂₋₄ are selected among hydrogen and lower alkyls;
 - (ii) SP is a spacer providing a carbon, a nitrogen, a sulphur or an oxygen directly attached to the Nitrogen in N⁺(R₂R₃R₄);
 - (iii) --- represents that the spacer is replacing one of R₂₋₄ in (Ar-R₁-N⁺(R₂R₃R₄));
 - (iv) -- represents binding to the matrix; and
- (b) the anion-exchanger (1) has a maximal breakthrough capacity in the pH-interval 2-13 for at least one reference proteins selected from the group consisting of ovalbumin, conalbumin, bovine serum albumin, β -lactoglobulin, α -lactalbumin, lyzozyme, IgG, and soybean trypsin inhibitor (STI) which is at least 200% of the maximal breakthrough capacity in the pH-interval 2-12 obtained for a Q-exchanger (-CH₂CH(OH)CH₂N⁺(CH₃)₃) (anion-exchanger 2).

Claim 16 (previously presented): The anion-exchanger of claim 15, wherein the relative break-through capacity is measured under anion-exchanger condition.

Claim 17 (withdrawn): A method for testing the appropriateness of one or more anion-exchangers for removing a substance from a liquid, said method comprising the steps:

- (a) providing a library which includes

- (i) one or more anion-exchangers to be tested (exchangers 1, 2, 3, 4 n; wherein n = an integer > 0) each of which anion-exchangers differs with respect to kind of ligand (ligands 1, 2, 3, 4,n), and
 - (ii) a reference anion-exchanger having a reference ligand, the support matrix etc being essentially the same in the exchangers 1, 2, 3, 4 n and in the reference anion-exchanger;
- (b) determining the maximal breakthrough capacity in the pH-interval 2-12 of exchanger 1 for the substance at a predetermined condition;
- (c) determining the maximal breakthrough capacity in the pH-interval 2-12 of the reference anion-exchanger for the substance at the same condition as in step (b);
- (d) determining, by comparing, the maximal breakthrough capacities obtained in steps (b) and (c), if anion-exchanger 1 is appropriate to use for removing the substance; and
- (e) repeating steps (b)-(d) for at least one of the exchangers 2, 3, 4 ... n.

Claim 18 (withdrawn): The method of claim 17, wherein the steps (b) and (c) are carried out under anion-exchanger conditions.

Claim 19 (withdrawn): A method for removing salt from a negatively charged substance which present in a solution (liquid (I)) comprising the steps of:

- (i) contacting liquid (I) liquid with an anion-exchanger (1) that comprises a base matrix carrying a plurality of ligands in which there is a positively charged nitrogen under conditions permitting binding between the anion-exchanger and the substance,
- (ii) desorbing said substance from said anion-exchanger by the use of a liquid (liquid (II)) at a desired pH

wherein

- (A) said anion-exchanger (1) is
 - (a) capable of binding the substance of interest in an aqueous reference liquid at an ionic strength corresponding to 0.25 M NaCl; and
 - (b) permits a maximal breakthrough capacity in the pH interval 2-12 for the substance $\geq 200\%$, such as $\geq 300\%$ or $\geq 500\%$ or $\geq 1000\%$, of the breakthrough capacity of the substance for Q-Sepharose Fast Flow, said anion-exchangers having essentially the same ligand density and the breakthrough capacities being determined under the same conditions; and
- (B) the pH of liquid (II) in step (ii) is adjusted by the use of an acid-base pair to a value that means a lower net positive charge on-the anion-exchanger and/or a lower net negative or positive charge on the substance thereby enabling elution at a lowered ionic strength compared to liquid (I).

Claim 20 (withdrawn): The method of claim 19, wherein at least one member of the acid-base pair buffer has a vapour pressure that is higher than the substance.

Claim 21 (withdrawn): The method of claim 19, wherein the substance in the liquid of low salt content obtained in step (ii) is ionized in a mass spectrometer.